

IN THE CLAIMS:

Please cancel Claims 11 to 80 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1 to 10 and add new Claims 81 to 90, as follows:

1. (Currently Amended) A signal processing apparatus which can output a brightness signal and a color signal, ~~signal of m bits as a color signal of n bits via an output apparatus; comprising:~~

a first gamma converting circuit which performs first gamma conversion to the color signal ~~converts a primary color signal of m bits into a primary color signal of k bits;~~

a second gamma converting circuit which performs second gamma conversion to the brightness signal, a characteristic of the second gamma conversion being different from a characteristic of the first gamma conversion ~~a color converting circuit which converts the primary color signal of k bits obtained by said gamma converting circuit into a signal of L bits showing a brightness and a color difference; and~~

a bit adjustment circuit which adjusts the number of bits of the color signal gamma-converted by said first gamma converting circuit ~~which converts the signal of L bits showing the color difference obtained by said color converting circuit into a signal of n bits showing a color difference signal;~~

~~wherein $m > k \geq L > n$.~~

2. (Currently Amended) A signal processing apparatus according to claim 1, further comprising a color converting circuit which converts the color signal gamma-converted by said first gamma converting circuit into color difference signals,

wherein said bit adjustment circuit adjusts the number of bits of the color difference signals color converting circuit converts the primary color signal into color difference signals (Cr, Cb).

3. (Currently Amended) A signal processing apparatus according to claim 2, wherein said bit adjustment ~~converting~~ circuit linearly converts a signal at a predetermined input level or lower in the color difference signal signals (Cr, Cb) of L bits obtained by said color converting circuit and non-linearly converts a signal at the predetermined input level or higher into a color difference signal signals (Cr, Cb) of n bits ~~and non-linearly converts a signal at the predetermined input level or higher into the color difference signals (Cr, Cb) of n bits.~~

4. (Currently Amended) A signal processing apparatus according to claim 1, further comprising a color converting circuit which converts the color signal gamma-converted by said first gamma converting circuit into color difference signals (U, V),

wherein said bit adjustment circuit adjusts the number of bits of the color ~~converting circuit converts the primary color signal into~~ color difference signals (U, V).

5. (Currently Amended) A signal processing apparatus according to claim 4, wherein said bit adjustment ~~converting~~ circuit omits at least one upper bit in the color difference signals (U, V) of L bits ~~and outputs n lower bits.~~

6. (Currently Amended) A signal processing method which can output a brightness signal and a color signal, ~~signal of m bits as a color signal of n bits via an output apparatus, comprising:~~

a first gamma converting step of performing first gamma conversion to the color signal ~~converting a primary color signal of m bits into a primary color signal of k bits;~~

a second gamma color converting step of performing second gamma conversion to the brightness signal, a characteristic of the second gamma conversion being different from a characteristic of the first gamma conversion ~~converting the primary color signal of k bits obtained in said gamma converting step into a signal of L bits showing a brightness and a color difference; and~~

a bit adjustment converting step of adjusting the number of bits of the color signal gamma-converted in said first gamma converting step ~~converting the signal of L bits showing the color difference obtained in said color converting step into a signal of n bits showing a color difference signal;~~

wherein $m > k \geq L > n$.

7. (Currently Amended) A signal processing method according to claim 6, further comprising a color converting step of converting the color signal gamma-converted in said first gamma converting step into color difference signals,

wherein in said bit adjustment step, the number of bits of the color difference signals is adjusted ~~the primary color signal is converted into color difference signals (Cr, Cb) in said color converting step.~~

8. (Currently Amended) A signal processing method according to claim 7, wherein in said bit adjustment converting step, a signal at a predetermined input level or lower

in the color difference signal signals ~~(Cr, Cb) of L bits~~ obtained in said color converting step is linearly converted into said color difference signals ~~(Cr, Cb) of n bits~~ and a signal at a ~~at the~~ predetermined input level or higher is non-linearly converted into the color difference signals ~~(Cr, Cb) of n bits~~.

9. (Currently Amended) A signal processing method according to claim 6, further comprising a color converting step of converting the color signal gamma-converted in said first gamma converting step into color difference signals (U, V),

wherein in said bit adjustment step, the number of bits of the primary color ~~signal is converted into~~ color difference signals (U, V) is adjusted ~~in said color converting step.~~

10. (Currently Amended) A signal processing method according to claim 9, wherein in said bit adjustment ~~converting~~ step, one upper bit in the color difference signals (U, V) ~~of k bits~~ is omitted ~~and n lower bits are output.~~

Claims 11 to 80 (Cancelled).

81. (New) A signal processing apparatus according to Claim 1, wherein an inclination in the characteristic of the first gamma conversion is larger than an inclination in the characteristic of the second gamma conversion.

82. (New) A signal processing apparatus according to Claim 1, wherein the number of bits of said first gamma converting circuit which performs the first gamma conversion to the color signal is larger than the number of bits of said second gamma converting circuit which performs the second gamma conversion.

83. (New) A signal processing apparatus according to Claim 1, wherein said bit adjustment circuit reduces the number of bits of the color signal.

84. (New) A signal processing apparatus according to Claim 2, wherein said bit adjustment circuit omits one upper bit in the color difference signals.

85. (New) A signal processing apparatus according to Claim 2, wherein said color converting circuit converts the color signal into CrCb color difference signals (Cr, Cb).

86. (New) A signal processing method according to Claim 6, wherein an inclination in the characteristic of the first gamma conversion is larger than an inclination in the characteristic of the second gamma conversion.

87. (New) A signal processing method according to Claim 6, wherein the number of bits in said first gamma converting step in which the first gamma conversion is performed to the color signal is larger than the number of bits in said second gamma converting step in which the second gamma conversion is performed.

88. (New) A signal processing method according to Claim 6, wherein in said bit adjustment step, the number of bits of the color signal is reduced.

89. (New) A signal processing apparatus according to Claim 7, wherein in said bit adjustment step, at least one upper bit in the color difference signals is omitted.

90. (New) A signal processing apparatus according to Claim 7, wherein in said color converting step, the color signal is converted into CrCb color difference signals (Cr, Cb).